

## CHAPTER VII

### SOME IMPENDING MIGRATIONS

**I**N these sketches of world problems, we have considered how the passengers on our terrestrial *Zeppelin* have been assigned their present quarters, and why they are crowded so largely into Europe, Southern and Eastern Asia, and Eastern North America. The basic reason lies in the supply of potash, nitrates and phosphorus in the soil, on the planking of the decks. For where these things occur Mother Earth has that blessed breaking-out of green rash on her skin, called vegetation—and on that animal life is based. But there are many regions in which these elements are plentifully found, but where the climate forbids successful community life, or, at any rate, forbids a dense population. It is too hot—as in the tropics; or too hot and wet—as in the forests of Central Africa or Central South

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America; or too hot and dry, as in the Sahara; or too dry with a good temperature, as in much of North America; or too cold, as in a great deal of Canada, Labrador, Siberia, and portions of Russia and Patagonia. Greenland, Iceland and the unknown antarctic continent are almost always frozen.

With the human race so growing in numbers, it seems certain that new lands will have to be occupied peaceably; or the old fierce game of war and conquest and extirpation must be resumed.

The passengers used to kill one another off more than now. Away off in the unknown wilds of Eastern Asia, some great brute of a murderer like Genghis Khan would arise and assail his fellow men using other fellow men as a weapon, and the tribes and nations would begin to be driven against one another like a row of falling bricks. The huge continent would shake with war—and finally, the wave would surge westward until our ancestors in Europe would be involved. Under the beating of such waves, Greece was sub-

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merged, and the Roman Empire went down in ruins. The passengers were seeking new quarters, that's all. But now, we seem to have ceased for a while to do this—in their way at least. And with the falling off in murder there is an increase in people.

To help on this increase, science is mastering disease. So in spite of famine and poverty, men are so multiplying that new quarters will one day be absolutely necessary. The passengers are in many places getting too numerous. In peaceful China and prolific India, and probably in some other countries, the limits of subsistence are already being pressed upon by sheer force of numbers. Where is the new land for the new billions?

There are two directions in which the land-swarmings of the future may move. They are north and south. In both directions the climatic conditions are so rigorous as to have kept men from multiplying under them to any great extent—for the hot regions of the air-ship amidships, and the cold regions at stem and stern are both sparsely supplied with

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passengers. Where, as in some densely-peopled tropical regions this is not true, the community life is not successful.

Climate! This is the one thing man has never yet been able to control. Almost every other phase of his environments, he can modify. He can cause new and more useful animals and plants to supplant the ones Nature gave the earth. He can annihilate distance. He can chain the spirits of coal. He can harness the winds and the rivers. But he has never yet changed a climate. There be those who think that arid climates grow moister with the cultivation of the lands, but such minds are duped. There does not fall on the average a drop more of moisture on any acre of our great arid and semiarid plains than fell there on the average before a plow was put into them. Climate has always been the master of man.

But will this always be so? No, without intending to do so, man is already affecting the climate of the whole earth. He is doing this by a thing never done before in the his-

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tory of the globe—the burning of coal. Whenever a ton of coal is burned, there passes off into the air a great many vapors. Among them is carbonic acid, or carbon dioxide. This is the gas that gathers in the well and kills the man who unwarily goes down to clean it. It passes into the air as a product of combustion everywhere that combustion takes place, and always has. It is breathed in by the leaves of plants. It is fatal to animal life if breathed in too strong a mixture, but in the amount usually found in the air, unless in an unventilated room, or well, or mine, it is not hurtful; in fact it is probably useful. The forest fires, the prairie fires, the rotting of vegetation, the transpiration of plants—all these have always kept in the air a certain amount of carbonic acid gas.

And now man is adding to the amount by burning coal as nothing was ever burned on earth before since the fires of its glowing core were quenched by its crust. Up to 1845, man had burned 27,700,000 tons in all history. In the one year of 1911 we burned not less than

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500,000,000 tons! This is a terrific thing to contemplate—the passengers engaged in such a tremendous robbery of the coal bunkers—but we are now concerned only with carbonic acid gas, and its effects on the climate.

If we keep up the increase to even half the extent which seems certain, we shall pour into the air enough carbon dioxide to double the amount of it in the atmosphere in eight hundred years. The probabilities are that the amount will be tripled in less than a thousand years—and your children and mine will be here then!

One of the greatest scientists in the world is Arrhenius, of Sweden. He is a chemist and physicist, and has studied this matter. He shows that this proportion of carbon dioxide in the air will make the climate warmer, by acting like the glass roof of a greenhouse. With the carbon dioxide increased from two and one-half to three times, the temperature of the whole world will be raised eight to nine degrees centigrade—and Greenland will have a good climate for farming. All the good soil

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of Canada will be in as temperate a climate as that now enjoyed by Missouri.

Corn will be grown in the Peace River Valley. Oranges will be an orchard fruit in Arkansas and Virginia. The suburban residents of Chicago may literally sit under their own fig trees and scuppernong grape arbors. Cotton will be a staple crop in Iowa. Bananas will fringe the shores of the Gulf. Siberia will become the greatest farming country in the world. The great antarctic continent—one of the greatest on earth in extent—will be the Western Canada, the Scandinavia, the Siberia of that day, and will have millions of people. The interior of Alaska will be as warm as Maine now is. And the heat of all the tropics will be augmented for thousands of years.

The increased heat will cause more evaporation of water vapor from the oceans—and as what goes up must come down, this will cause moister climates almost everywhere, and our dry-farming regions will become as wet as Ohio.

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And then, the passengers on this good ship *Earth* will have vast fields of good land upon which to multiply—as it seems to be their fate to do. All this will take place in a time shorter than the history of England since the Norman Conquest—in twice the time which has elapsed since the governor's palace was built in Santa Fe, New Mexico—our youngest state!

This voyage on the good ship *Earth* differs from other voyages, in this, that nobody gets off the ship—death is only a name for being reabsorbed into her decks; and birth is only an expression of the idea that portions of the decks have taken on the form of a baby, which will take into itself more and more of the ship, until it grows up. And with birth embodied in the earth of the body, and with death disembodied from it, is the mystery of the soul.

And inasmuch as nobody gets off, the number that are born among us becomes an important matter—we shall come to a fuller con-



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tact with that problem later. Just now what concerns us is the fact that in spots the passengers are getting too thick. New quarters must be found for the increase.

Millions may be stowed in the places now recognized as desirable and still unoccupied or only half occupied. Then we are going to spread northward in the northern hemisphere into Siberia, Canada and other lands now sparsely occupied by reason of the cold—because the climate of the whole world will grow warmer and warmer as the air is filled with carbonic acid gas from the consumption of coal—and we shall even be able to re-people Greenland and spread toward the south pole into the antarctic continent. All this within a thousand years, as there is reason to believe.

But are we to leave the tropics as uninhabited or sparsely peopled jungles and llanos and pampas and silvas? We have never been able to develop successful collective life in the torrid zone. Why? Is the land there lacking in the elements of plant food on which alone

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human life is based? Far from it. The richest lands in the world, judged by their products, are in the tropics of Southern Asia, Central Africa, Central South America, and such huge islands as Borneo, Papua and the Philippines. They are well watered. They bring forth amazingly. Where scientifically cultivated, as in Hawaii, they prove themselves capable of producing food and shelter for dense populations.

Why, then, do not all the crowded passengers in the ship go to the tropics, where these rich lands are, by the millions of acres, occupied only by the wild beasts, birds and the riotous vegetation?

There are many reasons—reasons of state, reasons of race prejudice, reasons of difficulty on the part of the migration of poor people. And there are inherent reasons.

The very richness of the tropics makes them hard to reclaim. In the canal zone, a road built to a farm is grown up and impassable in a few weeks. The trees and vines and huge weeds are foes to man. They overwhelm him.

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They daunt him. They make it almost impossible to him to clear the land, and almost as impossible to keep it cleared.

Then there is the question of health. Until recently white men have found it impossible to live a full strong life in the tropics, or to perpetuate their race there. The British in India last but two or three generations. Our people in the Philippines may be expected to perish in the same way, unless—unless we Gorgasize and Goethalsize the Philippines. I mean, unless we do them as we have done in the canal zone.

In making the Panama Canal, we seem to have solved the problem of white life in the tropics. Doctor Gorgas and his health department, under the rule of Colonel Goethals, have made the most pestilential spot on earth, perhaps, a region where white men can work, and work hard, and where white family life seems perfectly possible as a permanent thing.

This is a greater achievement than the building of the canal itself!

Disease comes in the tropics, as elsewhere,

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mostly in the form of evil bacteria in the blood, and animal parasites in the body. These produce diseases. The proverbial indolence of the nations of the tropics is largely the result of disease—like hook-worm. These germs and parasites affect both the men and their live stock. The tsetse fly fights back farming by killing the domestic animals in South Africa. The sleeping sickness kills off the people. Cholera ravages the tropics, and bubonic plague and yellow fever and hook-worm and many other plagues. But these diseases are one by one being conquered. Yellow fever and malaria are mere questions of mosquitoes, and the Panama and Cuban experiences prove that they can be coped with. A simple remedy and very effective preventives are known for hook-worm. New anti-toxins and serums are found every year. We can now see the end of the terrors of the tropics for the white race.

The other great scourge of the tropics is commercialism, and its accompanying slavery and peonage. The horrid debauch of greed

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in the Congo State under the accursed Leopold was commercialism hunting ivory and rubber. Yucatan and henequen, Bluefields and bananas, Hawaii and Java and sugar—these sinister couples might be added to indefinitely. Spanish America and her princely haciendas are other names for land monopoly and slavery. The destruction of men in the tropics by disease germs and parasites is not so awful as that by human parasites!

The slogan for the human race seeking to move into these great vacant spaces on the decks of the good ship *Earth*, therefore, is science, democracy and cooperative industry. Science will ward off disease and point the way to successful production. Democracy will eliminate privilege and give to each man the same rights to use of the decks of the good ship *Earth* as any other man. And cooperative industry—cooperative farming, cooperative manufacturing replacing the wage system—will furnish the capital, the engineering skill, the sanitation and the willingness to wait, necessary to the reclamation of those

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wide and overgrown regions which present problems too difficult for the unaided man.

In that day, the valleys of the Congo, the Niger, the Upper Nile, and the Zambeze—the whole interior plateau of Africa—will hold more happy people than Europe ever possessed, and the civilization will outshine that of Carthage or ancient Egypt, or of the Moors, or of present-day Europe or America.

And the Amazon, the Orinoco and the La Plata will carry commerce between the densest populations in the world. There are areas greater than half a dozen Texas along those rivers where not the highest wages will now tempt even the natives to go for rubber, the conditions are so lethal. All that will be cured. Science, democracy and cooperative industry will make of Brazil and her neighbor states the beautiful and prolific home of more people than now exist on earth. The vacant spaces there are greater than the whole of the United States and naturally richer than the Mississippi Valley.

In those days, the Caribbean and the Gulf

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of Mexico will carry the busiest commerce in the world, perhaps, for across them will lie ferries from the South American and Central American ports to the West Indies, and our southern states. The Mississippi Valley and the valley of the Amazon will fill those seas with shipping, and drop wealth and plenty on all shores.

To the accomplishment of this future the passengers are now almost ready to address their efforts. We have the science—Goethals and Gorgas have shown us that. To-morrow will bring the democracy and the cooperative commonwealth, with the right to the use of the good ship *Earth* assured to every passenger—no matter how humble.